

REMARKS

Reconsideration and allowance of the subject application are respectfully requested.

Upon entry of this Amendment, claims 1-68 are pending in the application. Applicant respectfully submits that the pending claims define patentable subject matter

In the Final Office Action dated January 24, 2003, claims 1, 2, 22-24, 26-34, 58-60 and 62-68 were rejected under 35 U.S.C. § 102(e) as being anticipated by Saib (USP 6,097,878). Claims 3-8, 10-12, 17, 20, 21, 25, 35-41, 43-45, 48-50, 53, 56, 57 and 61 remain rejected under 35 U.S.C. § 103(a) as being unpatentable over Yanagihara et al. (USP 5,899,578; hereafter “Yanagihara”) in view of Saib. Claims 9 and 42 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Yanagihara in view of Saib and Coutts et al. (USP 5,742,730; hereafter “Coutts”). Claims 18, 19, 54 and 55 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Yanagihara in view of Saib and Fujii et al. (USP 5,966,385; hereafter “Fujii”). Claims 13-16, 46, 47, 51 and 52 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form.

By this Amendment, Applicant has amended independent claims 1, 3, 22, 26, 30, 31, 34, 35, 48, 58, 62 and 67 to remove the previously added limitations regarding the control command not being included in program specific information (PSI) of the transport stream, and further defined the claimed transport stream as being a “multi-program transport stream”. Applicant respectfully submits the claimed invention would not have been rendered obvious in view of the combined references.

I. Disclosure of Saib and Examiner's Response

With regards to Figure 3, Saib discloses a home entertainment system 300 which includes an antenna 305, an integrated receiver decoder (IRD) 310, and at least one analog-input peripheral device such as a display monitor or television receiver 320 and/or an analog recording device 330 such as a video cassette recorder (VCR). A digital bit stream including sensory data (e.g., video and/or audio, or communication data), and control information including programming data (e.g., show title, date of broadcast, broadcast channel number, show start-time, show end-time, etc.) is provided from the antenna 305 to the IRD 310. The bit stream is decoded and processed by the IRD 310 to produce one or more output signals having appropriate formats. An output signal is placed in an analog video format and sent via communication line 325 to the TV 320 for viewing, and/or via communication line 335 to the VCR 330 for recording.

Additionally, the IRD 310 is responsible for responding to a plurality of commands from a remote control 315. A first command which causes the IRD 310 to produce an output signal displaying an electronic guide screen on TV 320. A second command causes (a) the IRD 310 to tune to the broadcast channel of that show if a cursor is positioned over the grid of a current-broadcast show, or (b) a screen menu to be displayed in combination with the electronic guide screen if the cursor is positioned over the grid of a future-broadcast show. Upon scrolling the cursor to be position above a selected option and initiating a third command from the remote control 315, programming data associated with the future-broadcast show (i.e., a title of the future broadcast show, a start-time of the future-broadcast show, an end-time of the future-

broadcast show, a date of broadcast of the future-broadcast show and a broadcast channel number) is stored in the IRD 310. Based on the stored programming data, the IRD 310 will automatically tune to the future-broadcast show at the appropriate future time so that the VCR 330 may record the future-broadcast show as received from the IRD 310.

On pages 2 and 3 of the Office Action dated January 24, 2003, the Examiner maintains that "Saib discloses ...[a] recording command, for example, from the remote controller [315] causes a show to be recorded in the VCR 330". The Examiner further states that "[t]o provide the commands and achieve the recording of the desired show (program), the control command is not included in the PSI of the transport stream [a]nd, inherently, the IEEE-1394 digital interface [415 in Figure 4] conforms to asynchronous transfer of control data." Finally, the Examiner sums up his position by asserting that the claimed invention is unpatentable over Saib because the cited reference "discloses a receiving system that can tune to desired channels to receive a program, through a control command sent by a user through remote control means, and then record, for example, the program in a recording means, wherein the control command is not included in program specific information (PSI) of the transport stream."

However, nowhere does Saib teach or suggest that the IRD 310 generates a command, based on a recording or control command received from the remote control 315, which is transmitted to the analog VCR 330 in order to cause the VCR 330 to record a desired broadcast channel. Rather, the remote control 315 generates commands which cause the IRD to produce various electronic guide screens (video signals) which are displayed on the television 320 so that a user may select a particular channel to be decoded at a future time for recording. In response to

commands from the remote control 315, the IRD 310 stores data indicating that a selected channel is to be decoded at future time in order to transfer the decoded analog and video data of the selected channel to the VCR 330 for recording. However, the IRD 310 does not transfer any commands (such as a recording command or program information command) to the analog VCR 330. Rather, the analog VCR 330 must be separately programmed to start recording at the selected time.

With reference to Figure 4, Saib also teaches that the IRD 310 may be connected to digital peripheral devices (such as digital VCRs, digital video disk players, and digital laser disk players which are not shown) through an interface (IF) 415 which includes a link layer integrated circuit (IC) and a physical layer IC (not shown) and complies with the IEEE standards document 1394 (hereinafter referred to as "IEEE 1394"). The digital-input peripheral devices supply control signals (e.g., IEEE 1394 commands) to a central processing unit (CPU) within main logic block 410 (see FIG. 5) of the IRD 310 through IF 415 and extension bus 420. Audio and video data is transferred from the digital-input peripheral devices to main logic block 410 through an IEEE 1394 serial bus 425. From the CPU, IEEE 1394 commands may be transferred to the digital-input peripheral devices via extension bus 420 and IF 415. See column 4, lines 28-44.

As discussed in the "Background of the Invention" section of the present application, according to the IEEE 1394 serial bus standard, audio/video data is transferred in real time using the isochronous transfer mode while transactions required for communication and control commands such as the audio/video control command and transaction set (AV/C CTS) are transferred using the asynchronous transfer mode. Although the control commands of the AV/C

may include commands related to mechanical operation of digital A/V devices, the control commands of the AV/C CTS do not include commands for transferring information related to the MPEG2 system layer such a program information (e.g., program numbers).

Accordingly, Saib's disclosure that the IRD 310 may exchange IEEE 1394 commands with other digital peripheral devices (e.g., a digital VCR) simply means that the IRD 310 and the digital peripheral devices may exchange commands (i.e., control commands of the AV/C CTS) in accordance with the conventional IEEE 1394 standard. Therefore, Saib does not disclose that exchanging the IEEE 1394 commands which transfer program information. Moreover, nowhere does Saib teach or suggest that the IRD 310 generates, based on a command from the remote control 315, a recording command or any other command which is transmitted to digital peripheral devices via the IF 415.

On page 3 of the Advisory Action dated May 21, 2003, the Examiner states:

When the IRD 310, based on the command entered through a remote control means, command controls the VCR 330 through the IEEE 1394 interface to record a desired program, the IRD 310 is in effect generating a recording control command. And, inherently the IEEE-1394 digital interface conforms to asynchronous transfer of control data. To provide the commands and achieve the recording of the desired show (program), the control command is not included in the PSI of the transport stream.

However, as discussed above, Saib does not disclose that the IRD command controls the VCR, and moreover, does not teach or suggest generating and transferring a program information control command based on program information received from a user or input device, as claimed.

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In the Office Action dated January 24, 2003, the Examiner states that “applicant’s argument that none of the references discloses a system which allows a user to input a program number of an intended program which is transferred from a receiver to a recording/reproducing device via a control command is moot because such a limitation is not explicitly in the claims.” However, it is Applicant’s position that Saib and Yanagihara do not teach or suggest generating a control command for transferring program information between a receiver and a recording/reproducing device.

In the Advisory Action dated May 21, 2003, the Examiner further states that “applicant’s argument that none of the references discloses a system which allows a user to input a program number of an intended program which is transferred from a receiver to a recording/reproducing device via a control command is moot because such a limitation is not explicitly in the claims.” However, as discussed in the sections below, each of the independents recite similar limitations which are not taught or suggest by the cited references.

In summary, the present invention is characterized by the creation and use of a new command for transferring the a program information control command, i.e., a program number of an intended program, based on program information received from a user, and transferring the multi-program transport stream with the program information control command so that various digital A/V devices can be controlled by one apparatus or one remote controller for the apparatus. As a result, recording and reproducing can be controlled without extra hardware (e.g., PAT parser, PAT corrector, PMT parser and single transport stream extractor) added to the receiver.

II. Independent claim 1

Independent claim 1 recites “ a receiver including a first digital interface, *for generating a control command based on the program information received from said input device*, and for transferring the control command via said first digital interface.” Claim 1 further recites “a recording/reproducing device including a second digital interface, for decoding the control command transferred from said receiver, and *for recording/reproducing a multi-program transport stream being received, corresponding to the program information obtained by decoding the received command.*”

Applicant respectfully submits that it is quite clear that Saib does not teach or suggest the claimed receiver for generating a control command based on the program information of intended programs received from the input device and transferring the control command to the a recording/reproducing device, as claimed. Similarly, Saib does not teach or suggest the claimed a recording/reproducing device for recording/reproducing a transport stream corresponding to the program information obtained by decoding the control command from the receiver.

Rather, as discussed above, Saib discloses that the remote control 315 generates a command which causes the IRD 310 to store programming data of a future-broadcast show so that IRD 310 can tune the future-broadcast show at the appropriate date and time in order to output the analog and video data of the future-broadcast show to the analog VCR 330 for recording. Further, the IRD 310 does not transfer any commands to the VCR 330 (or digital peripheral devices) based on the command from the remote control 315.

III. Independent claim 3

Independent claim 3 recites a “receiver comprising ... a first digital interface for ... *generating a program information control command based on the program information of the intended program*, and transmitting ... the program information control command.” Claim 3 further recites “[a] recording/reproducing device comprising a second digital interface for receiving the program information control command and the multi-program transport stream from said first digital interface and decoding the program information control command to obtain the program information of the intended program; and a second signal processor for extracting the intended program from the multi-program transport stream received by said second digital interface, based on the program information”.

Similar to claim 1, Applicant respectfully submits that it is quite clear that Saib does not teach or suggest these features of the claimed invention. Rather, Saib discloses that the remote control 315 generates a command which causes the IRD 310 to store programming data of a future-broadcast show so that IRD 310 can tune the future-broadcast show at the appropriate date and time in order to output the analog and video data of the future-broadcast show to the analog VCR 330 for recording. Further, the IRD 310 does not transfer any commands to the VCR 330 (or digital peripheral devices) based on the command from the remote control 315.

Further, Applicant respectfully submits that that one of ordinary skill in the art would not have been motivated to modify the Yanagihara device based on the teachings Saib to produce the claimed invention since Yanagihara is directed to transferring selected program information by

modifying the PSI so that the PAT includes only the PID specified by the PMT having a selected program number. Thus, modifying the Yanagihara device to generate and transfer a control command based on the program number information would eliminate the fundamental operational principles of the Yanagihara device. As set forth in MPEP 2143.01, if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).

Further, the Examiner has failed to provide any objective and convincing reasoning why one of ordinary skill in the art would have been motivated to modify Yanagihara other than simply stating that “[p]roviding a control command which is not included in the PSI of a transport stream provides the desirable advantage of directly controlling the electronic device which simplifies the control process”. However, Yanagihara teaching of providing a control command which is included in the PSI already allows for the direct control of the electronic device. Moreover, the Examiner does not point out any portion of Yanagihara or Saib which suggests the desirability of modifying Yanagihara’s teachings.

IV. Independent claim 22

Independent claim 22 is directed to “[a] method for transferring and receiving program information between a receiver ... and a recording/reproducing device.” Claim 22 recites “generating a program information control command corresponding to the provided program

information to transfer the program information control command, from the receiver to the recording/reproducing device.”

Similar to claim 1, Applicant respectfully submits that it is quite clear that Saib does not teach or suggest these features of the claimed invention. Rather, Saib discloses that the remote control 315 generates a command which causes the IRD 310 to store programming data of a future-broadcast show so that IRD 310 can tune the future-broadcast show at the appropriate date and time in order to output the analog and video data of the future-broadcast show to the analog VCR 330 for recording. Further, the IRD 310 does not transfer any commands to the VCR 330 (or digital peripheral devices) based on the command from the remote control 315.

V. Independent claim 26

Independent claim 26 is directed to “[a] method for transferring program information between a receiver ... and a recording device.” Claim 26 recites:

- (a) providing program information of an intended program to be recorded;
- (b) transferring a command for inquiring as to whether to permit the recording of the program;
- (c) receiving a response for permitting the recording of the program *from the recording device*;
- (d) *transferring a command for performing the recording of the program corresponding to the program information provided in the step (a); and*
- (e) receiving a response for notifying of the permission of the recording of the program corresponding to the program information, *from the recording device*.

In support of the rejection, the Examiner simply cites column 5, line 25 through column 6, line 58 of Saib for disclosing the claimed features of claim 26. However, Applicant

respectfully submits that it is quite clear that the cited portion of Saib do not teach or suggest the subject matter of claim 26. Rather, the cited portion of Saib simply discloses the loading programming data of a future-broadcast show so that IRD 310 can tune the future-broadcast show at the appropriate date and time in order to output the analog and video data of the future-broadcast show for recording purposes.

In response to a first command from remote control 315, the IRD 310 produces an output signal displaying an electronic guide screen on TV 320. In response to a second command from remote control 315, the IRD 310 tunes to the broadcast channel of that show if a cursor is positioned over the grid of a current-broadcast show, or outputs a screen menu to be displayed in combination with the electronic guide screen if the cursor is positioned over the grid of a future-broadcast show. In response to a third command from the remote control 315, the IRD 310 stores programming data associated with the future-broadcast show (i.e., a title of the future broadcast show, a start-time of the future-broadcast show, an end-time of the future-broadcast show, a date of broadcast of the future-broadcast show and a broadcast channel number). Based on the stored programming data, the IRD 310 will automatically tune to the future-broadcast show at the appropriate future time so that the VCR 330 may record the future-broadcast show as received from the IRD 310.

On page 5 of the Advisory Action dated May 21, 2003, the Examiner asserts:

Saib clearly discloses the limitations of claim 26 because the process and sequence of initiating and recording a program, for example, includes receiving a command from the remote control, a first interrupt request signal is transferred corresponding to the first command directly to the CPU 525 or indirectly through

a queuing mechanism. With this interrupt signal and subsequent interrupt signals, either the current broadcast is selected or a future broadcast is selected based on where the cursor is positioned when the select button is depressed. Examiner reads the positioning of the cursor following the different option grids as granting the permission to select a particular program to be recorded, for example. And, when a particular program is selected to be recorded, the recording process is initiated and the VCR is notified through which the VCR is readied for the recording operation.

However, as discussed previously, Saib does not disclose that the IRD transfers commands to the VCR 330 (or digital peripheral devices) based on the command from the remote control 315. Rather, the IRD is simply programmed by the remote control to automatically tune to the future-broadcast show at the appropriate future time so that the VCR may record the future-broadcast show as received from the IRD. The VCR must be separately/independently programmed to start recording at the selected time (i.e., the VCR is not controlled or programmed by the IRD).

VI. Independent claim 30

Independent claim 30 is directed to “[a] method for receiving program information by a receiver ... and a reproducing device.” Claim 30 recites:

- (a) inquiring as to whether to permit the transfer of program information corresponding to the program recorded on the recording medium, during a playback mode;
- (b) receiving a response for permitting the reproduction of the program from the reproducing device;
- (c) transferring *a command for requesting the program information of the program recorded on the recording medium*; and

(d) transferring a command indicating the program information of the program recorded on the recording medium from the reproducing device.

In support of the rejection, the simply states “that the claimed limitations of claim 30 are accommodated in the discussions of claim 26 above” (i.e., column 5, line 25 through column 6, line 58 of Saib). However, Applicant respectfully submits that it is quite clear that the cited portion of Saib do not teach or suggest the subject matter of claim 30. That is, as discussed above with regards to claim 26, the cited portion of Saib merely discloses the loading programming data of a future-broadcast show so that IRD 310 can tune the future-broadcast show at the appropriate date and time in order to output the analog and video data of the future-broadcast show for recording purposes.

VII. Independent claim 31

Independent claim 31 recites “a receiver having a digital interface, for receiving a multiprogram transport stream and *generating a program information control command based on program information received from a user, and for transferring the control command and the multiprogram transport stream* via the digital interface.”

Similar to claim 1, Applicant respectfully submits that it is quite clear that Saib does not teach or suggest these features of the claimed invention. Rather, Saib discloses that the remote control 315 generates a command which causes the IRD 310 to store programming data of a future-broadcast show so that IRD 310 can tune the future-broadcast show at the appropriate date and time in order to output the analog and video data of the future-broadcast show to the analog

VCR 330 for recording. Further, the IRD 310 does not transfer any commands to the VCR 330 (or digital peripheral devices) based on the command from the remote control 315.

VIII. Independent claim 34

Independent claim 34 recites “a receiver including a digital interface for receiving a multi-program transport stream and a control command transferred from a digital audio/video (A/V) device, *decoding the control command and recording/reproducing the multi-program transport stream corresponding to program information of the transport stream obtained by decoding the received control command.*”

Similar to claim 1, Applicant respectfully submits that it is quite clear that Saib does not teach or suggest these features of the claimed invention. Rather, Saib discloses that the remote control 315 generates a command which causes the IRD 310 to store programming data of a future-broadcast show so that IRD 310 can tune the future-broadcast show at the appropriate date and time in order to output the analog and video data of the future-broadcast show to the analog VCR 330 for recording. Further, the IRD 310 does not transfer any commands to the VCR 330 (or digital peripheral devices) based on the command from the remote control 315.

IX. Independent claim 35

Independent claim 35 recites that “the receiver comprises ... a digital interface for *generating a program information control command based on program information input by a*

user, and transferring a multi-program transport stream output from the signal processor and the control command.”

Similar to claim 1, Applicant respectfully submits that it is quite clear that Saib does not teach or suggest these features of the claimed invention. Rather, Saib discloses that the remote control 315 generates a command which causes the IRD 310 to store programming data of a future-broadcast show so that IRD 310 can tune the future-broadcast show at the appropriate date and time in order to output the analog and video data of the future-broadcast show to the analog VCR 330 for recording. Further, the IRD 310 does not transfer any commands to the VCR 330 (or digital peripheral devices) based on the command from the remote control 315.

Further, Applicant respectfully submits that that one of ordinary skill in the art would not have been motivated to modify the Yanagihara device based on the teachings Saib to produce the claimed invention for the same reasons set forth with regards to claim 3.

X. Independent claim 48

Independent claim 48 recites a “recording/reproducing device comprising: a digital interface *for decoding a program information command transferred from the digital A/V device* and ... ; and a signal processor *for extracting an intended program from the multi-program transport stream received by the digital interface, based on the program information”*.

Similar to claim 1, Applicant respectfully submits that it is quite clear that Saib does not teach or suggest these features of the claimed invention. Rather, Saib discloses that the remote control 315 generates a command which causes the IRD 310 to store programming data of a

future-broadcast show so that IRD 310 can tune the future-broadcast show at the appropriate date and time in order to output the analog and video data of the future-broadcast show to the analog VCR 330 for recording. Further, the IRD 310 does not transfer any commands to the VCR 330 (or digital peripheral devices) based on the command from the remote control 315.

Further, Applicant respectfully submits that that one of ordinary skill in the art would not have been motivated to modify the Yanagihara device based on the teachings Saib to produce the claimed invention for the same reasons set forth with regards to claim 3.

XI. Independent claim 58

Independent claim 58 is directed to “[a] method for transferring and receiving program information between a receiver ... and a recording/ reproducing device.” Claim 58 recites *“generating a command corresponding to the program information input for transferring the program information command to the recording/reproducing device.”*

Similar to claim 1, Applicant respectfully submits that it is quite clear that Saib does not teach or suggest these features of the claimed invention. Rather, Saib discloses that the remote control 315 generates a command which causes the IRD 310 to store programming data of a future-broadcast show so that IRD 310 can tune the future-broadcast show at the appropriate date and time in order to output the analog and video data of the future-broadcast show to the analog VCR 330 for recording. Further, the IRD 310 does not transfer any commands to the VCR 330 (or digital peripheral devices) based on the command from the remote control 315.

XII. Independent claim 62

Independent claim 62 is directed to “[a] method for transferring program information between a receiver ... and a recording and reproducing device.” Claim 62 recites:

- (a) receiving program information of an intended program to be recorded or reproduced;
- (b) *transferring a command for inquiring as to whether to permit the recording or reproducing of the program;*
- (c) *receiving a response for permitting the recording of the program from the recording and reproducing device; and*
- (d) *transferring a command for performing the recording of the program corresponding to the program information input in the step (a).*

Similar to claim 1, Applicant respectfully submits that it is quite clear that Saib does not teach or suggest these features of the claimed invention. Rather, Saib discloses that the remote control 315 generates a command which causes the IRD 310 to store programming data of a future-broadcast show so that IRD 310 can tune the future-broadcast show at the appropriate date and time in order to output the analog and video data of the future-broadcast show to the analog VCR 330 for recording. Further, the IRD 310 does not transfer any commands to the VCR 330 (or digital peripheral devices) based on the command from the remote control 315.

XIII. Independent claim 67

Independent claim 67 is directed to “[a] method for receiving program information by a receiver ... and a reproducing device.” Claim 67 recites:

- (a) inquiring as to whether to permit the transfer of program information corresponding to the program recorded on the recording medium, during a playback mode;

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- (b) receiving a response for permitting the reproduction of the program from the reproducing device;
- (c) *transferring a command for requesting the program information of the program recorded on the recording medium; and*
- (d) *receiving the program information of the program recorded on the recording medium from the reproducing device.*

Similar to claim 1, Applicant respectfully submits that it is quite clear that Saib does not teach or suggest these features of the claimed invention. Rather, Saib discloses that the remote control 315 generates a command which causes the IRD 310 to store programming data of a future-broadcast show so that IRD 310 can tune the future-broadcast show at the appropriate date and time in order to output the analog and video data of the future-broadcast show to the analog VCR 330 for recording. Further, the IRD 310 does not transfer any commands to the VCR 330 (or digital peripheral devices) based on the command from the remote control 315.

XIV. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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